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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,086	06/08/2000	Toshio Nitta	040405/0320	9812
22428	7590	10/04/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			KHUONG, LEE T	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/589,086	Applicant(s) NITTA, TOSHIO	
	Examiner Lee Khuong	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/5/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 3-5, 7-9, 11, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine et al (US 6,504,839) hereinafter referred as Valentine in view of Hakim et al (US 6,614,780) hereinafter referred as Hakim.

3. **Regarding claim 1,**

Valentine disclose a TCP/IP mobile communication network (see Fig. 1, #110) transmission and reception system for conducting transmission from a TCP/IP communication network to a mobile communication network (see Fig. 1, #130), comprising:

a provider access server (Fig. 1, #111) for the connection of a TCP/IP communication network to receive an IP packet in which an IP address of a mobile communication terminal as a destination of transmission from the TCP/IP communication network is stored at a header (see col. (see col. 4, lines 55-67, *wherein the IP address of a mobile communication terminal is the unique identifier of a mobile device #120*); and

a mobile communication switching system for extracting an IP address from a header of an IP packet sent from the provider access server (see Fig. 1, #111, col. 4, lines 62-67, *access server #111 sends a call request to GMSC #131 includes the address of the mobile device*

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#120. the GMSC then sends an inquiry to HLR for location and routing information of the mobile device #120) and send an originating signal and a selection signal based on the searched user's telephone number to a mobile communication network on the side of said mobile communication terminal (see col. 5, lines 12-19, ***MSC responds to HLR requests with routing information and sends back to GMSC routing information. GMSC completes the call to the mobile device #120 through switching circuit #140***).

Valentine fail to disclose searching for a user's telephone number corresponding to the IP address.

However, mapping the IP address to the destination phone number is well known in the art for inter-networking system between a switching and packet system as evidenced by Hakim.

Hakim disclose mapping the IP address to the destination phone number for the purpose of achieving inter-networking between a switching and packet system (see Fig. 7, #708, col. 6, lines 53-55, ***mapping the destination IP address to the destination telephone number***).

One skilled in the art would have recognized the advantage of using IP address to telephone number mapping as taught by Hakim in the system of Valentine for the purpose of achieving inter-networking between a switching and packet system.

Thus, it would have been obvious to one skilled in the pertinent art at the time the invention was made to apply Valentine's teaching of IP address to phone number mapping in Hakim's system with the motivation of providing inter-networking between a switching and packet telecommunication system.

4. Regarding claim 3,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 2.

Valentine disclose said provider connection interworking function device including a terminating processing circuit for conducting terminating processing of an error control protocol on the side of a radio line (see col. 4, line 67, col. 5, line 1),

an asynchronous terminating processing circuit for conducting terminating processing with respect to communication on a serial asynchronous line with the provider access server for TCP/IP communication network line connection (see col. 5, lines 20-25),

a synchronous pattern detection circuit for detecting a synchronous pattern to determine first arrival of an IP packet transferred through the asynchronous terminating processing circuit (see col. 5, lines 12-19),

a transmission signal sending circuit for sending out an originating signal and a selection signal to the mobile communication switching system based on a user's telephone number from the IP address/telephone number converting circuit (see col. 5, lines 1-19).

Hakim disclose an IP address/telephone number converting circuit for searching for a user's telephone number corresponding to an IP address of the mobile communication terminal as a transmission destination which is stored in a header of an IP packet from the synchronous pattern detection circuit (see Fig. 7, #708, col. col. 6, lines 53-55).

5. Regarding claim 4,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 3.

Hakim disclose said IP address/telephone number converting circuit including an IP address/telephone number conversion table which stores a user's telephone number corresponding to an IP address (see Fig. 7, #708, col. 6, lines 53-55, *IP/Telco database #708 for IP address to the destination telephone number conversions*).

6. Regarding claims 5 and 12,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejections of claims 1 and 11.

Valentine further disclose said mobile communication network is a mobile communication network in a personal digital cellular telecommunication system (PDC) (see Fig. 1, #130).

7. Regarding claim 7,

Valentine and Hakim disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 4.

Hakim further disclose an IP address and a user's telephone number in said IP address/telephone number conversion table are set by a manager (see Fig. 7, #705) of the mobile communication network accommodating the mobile communication switching system (see col. 6, lines 58-63, *Mapping database #705 maps an IP address to a telephone number and manage to share its database among many customers located on the same local exchange*).

8. Regarding claim 8,

Valentine and Hakim disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 4.

Hakim further disclose an IP address and a user's said IP address/telephone number in number conversion table are set through a terminal accommodated in the TCP/IP communication network by the execution of a communication control protocol for the IP address/telephone number conversion table of the IP address/telephone number converting circuit (see Fig. 7, #701, *ITS*, col. 6, lines 30-42).

9. Regarding claims 9 and 14,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejections of claims 1 and 11.

Valentine further disclose said provider access server and mobile communication switching system conducts switching connection for the transmission from the mobile communication terminal accommodated in the mobile communication network to the TCP/IP communication network (see Fig. 1, col. 4, lines 55-62).

10. Regarding claim 11,

Valentine disclose a method of conducting transmission from a TCP/IP communication network to a mobile communication network, comprising the steps of:

sending out an IP packet in which an IP address of a mobile communication terminal as a transmission destination is stored at a header from a TCP/IP communication network (see Fig. 1, #150, col. 4, lines 55-58);

receiving the IP packet from the TCP/IP communication network (see col. 4, lines 58-59); and

extracting the IP address from the header of the received IP packet to send an originating signal and a selection signal based on the searched user's telephone number to a mobile communication network on the side of said mobile communication terminal (see col. 4, lines 62-67, *access server #111 sends a call request to GMSC #131 includes the address of the mobile device #120. the GMSC then sends an inquiry to HLR for location and routing information of the mobile device #120*, col. 5, lines 12-19, *MSC responds to HLR requests with routing information and sends back to GMSC routing information. GMSC completes the call to the mobile device #120 through switching circuit #140*).

Valentine fail to disclose searching for a user's telephone number corresponding to the IP address.

However, mapping the IP address to the destination phone number is well known in the art for inter-networking system between a switching and packet system as evidenced by Hakim.

Hakim disclose mapping the IP address to the destination phone number for the purpose of achieving inter-networking between a switching and packet system (see Fig. 7, #708, col. 6, lines 53-55, *mapping the destination IP address to the destination telephone number*).

One skilled in the art would have recognized the advantage of using IP address to telephone number mapping as taught by Hakim in the system of Valentine for the purpose of achieving inter-networking between a switching and packet system.

Thus, it would have been obvious to one skilled in the pertinent art at the time the invention was made to apply Valentine's teaching of IP address to phone number mapping in

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Hakim's system with the motivation of providing inter-networking between a switching and packet telecommunication system.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Hakim and further in view of Billstrom et al (US 5,590,133) hereinafter referred as Billstrom.

12. Regarding claim 2,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 1.

Valentine fail to disclose mobile switching center include a time-division switch for conducting time- division switching of line switching.

However, TDMA MSC is well known in the art for providing time slot scheduling to reduce network access congestion as evidenced by Billstrom.

Billstrom disclose a time-division switching for the purpose of achieving network access scheduling to reduce network access congestion (see col. 4, lines 23-27, *TDMA MSCs*)

One skilled in the art would have recognized the advantage of using a time-division switching as taught by Billstrom in the system of Valentine for the purpose of achieving network access scheduling.

Thus, it would have been obvious to one skilled in the pertinent art at the time the invention was made to apply Billstrom's teaching of a time-division switching in Valentine's system with the motivation of reducing network access congestion using time-slot scheduling technique.

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13. Claim 6, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Hakim and further in view of Farazmandnia et al (US 6,625,472) hereinafter referred as Farazmandnia.

14. Regarding claims 6 and 13,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejections of claims 1 and 11.

Valentine fail to disclose said mobile communication network is a mobile communication network to which the PIAFS standard in the personal handy phone system (PHS) is applied.

However, applying PIAFS standard in a mobile communication network is known in the art for efficiency and cost saving means as evidenced by Farazmandnia.

Farazmandnia disclose applying PIAFS standard in the PHS for the purpose of achieving cost saving means (see Fig. 2, col. 1, lines 19-22, col. 5, lines 45-51, *PIAFS in PHS*).

One skilled in the art would have recognized the advantage of using PIAFS standard in a mobile communication network as taught by Farazmandnia in the system of Valentine for the purpose of achieving efficiency and cost saving means.

Thus, it would have been obvious to one skilled in the pertinent art at the time the invention was made to apply Y's teaching of PIAFS standard in a mobile communication network in Valentine's system with the motivation being efficient and cost saving.

15. Regarding claim 10,

Valentine disclose the TCP/IP mobile communication network transmission and reception system as set forth in the rejection of claim 1.

Valentine fail to disclose said mobile communication terminal, a data terminal mounted at least with a browser, and a modulator and demodulator for enabling said data terminal to conduct transmission to the TCP/IP communication network through the mobile terminal, wherein data including letters and images by means of IP packets is transmitted from said TCP/IP communication network.

However said mobile communication terminal, a data terminal mounted at least with a browser, and a modulator and demodulator for enabling said data terminal to conduct transmission to the TCP/IP communication network through the mobile terminal, wherein data including letters and images by means of IP packets is transmitted from said TCP/IP communication network is known in the art for providing a saving cost means of connecting a personal computing device to the internet and a cellular telephone system as evidenced by Farazmandnia.

Farazmandnia disclose said mobile communication terminal, a data terminal mounted at least with a browser, and a modulator and demodulator for enabling said data terminal to conduct transmission to the TCP/IP communication network through the mobile terminal, wherein data including letters and images by means of IP packets is transmitted from said TCP/IP communication network for the purpose of achieving cost saving means of connecting a personal computing device to the internet and a cellular telephone system (see Fig. 3, col. 4. lines 33-40, col. 6, lines 39-43).

One skilled in the art would have recognized the advantage of using said data terminal as taught by Farazmandnia in the system of Valentine for the purpose of saving cost in providing connection for PHS.

Thus, it would have been obvious to one skilled in the pertinent art at the time the invention was made to apply Farazmandnia's teaching of said data terminal in Valentine's system with the motivation of cost saving.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Angwin et al (US 6,246,688) disclose a method and system for using a cellular phone as a network gateway in an automotive network.

Rautiola et al (US 5,956,331) disclose an integrated radio communication system to communicate between data terminals in small areas with dense communications.

Sicher et al (US 6,385,195) disclose an enhanced interworking function for interfacing digital cellular voice and fax protocols and internet protocols.

Sallberg (US 6,519,252) disclose a method and system for connecting a call to a mobile subscriber connected to the internet.


Barany et al (US 6,434,140) disclose a method and system for implementing replacing SS7 interface with an IP interface.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Khuong whose telephone number is 571-272-3157. The examiner can normally be reached on 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lee T. Khuong
Examiner
Art Unit 2665



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